



## USER'S MANUAL

Have a technical question?

### Americas:

If you have questions, or require technical service, please contact our trained service technicians at:

1-314-679-4200 ext. 4782

Monday – Friday 7:30 am to 4:15 pm CST

Visit our web site at [www.mityvac.com](http://www.mityvac.com) for new products, catalogs, and instructions for product use.

### Need service parts?

To order replacement or service parts, visit us online at [www.mityvacparts.com](http://www.mityvacparts.com) or call toll free 1-800-992-9898.



### Specifications:

Reservoir Capacity (w/ pump): 1 quart/1 liter

Maximum Pressure: 20 psi/1.4 bar/140 kPa

**It is the responsibility of the user of this equipment to read this user's manual entirely, and understand the safe and proper use and application of this equipment.**

---

**TABLE OF CONTENTS**

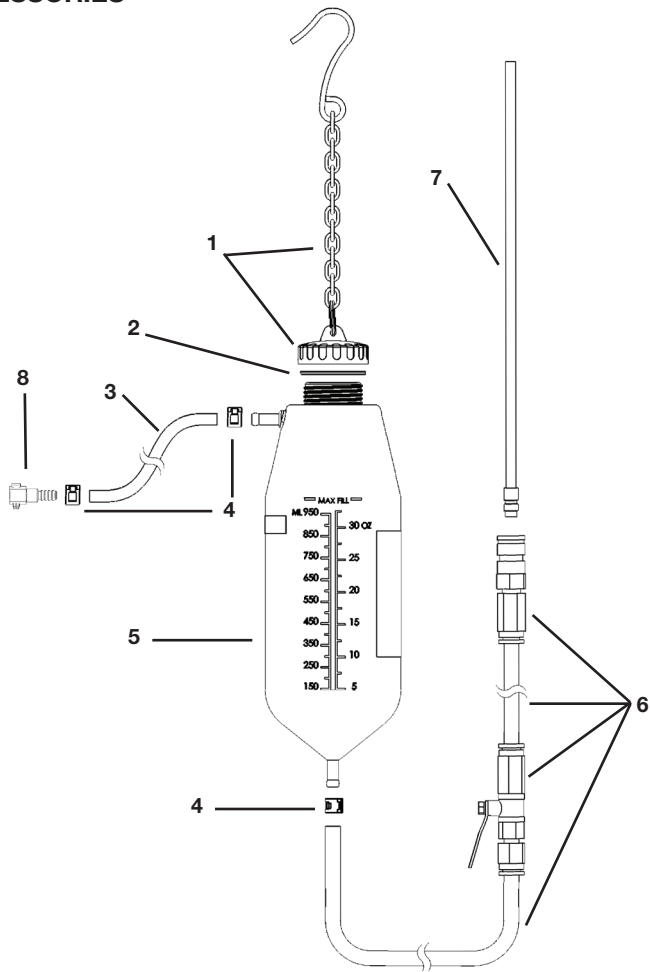
Service Parts & Accessories ..... 3

Pressure Bleed Adapter Chart. .... 4

Principal of Operation ..... 5








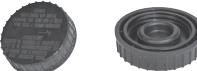










Instructions for Use ..... 6

SERVICE PARTS & ACCESSORIES



SERVICE/REPLACEMENT PARTS AND KITS									
Ref. No.	Description	PART/KIT NUMBERS							
		824820	824821	824822	824823	824824	MVA570	MVA7210	824461
1	Cap with Chain	1 pc							
2	Cap Seal	1 pc			1 pc				
3	8' Inlet Hose			1 pc					
4	Clamp		3 pcs						
5	Bottle					1 pc			
6	Fluid Hose Assembly							1 pc	
7	Dispensing Wand						1 pc		
8	Tube Connectors								2 pcs

## PRESSURE BLEED ADAPTER CHART

Pressure Cap	System Adapter #	Type	Application(s)
	MVA800* 	Locking collar	Toyota, Lexus
	MVA801* 	3-Tab camlock	Chrysler, Dodge, Jeep, Plymouth
	MVA802* 	3-Tab camlock	Chrysler, Dodge, Jeep, Plymouth
	MVA803* 	3-Tab camlock	Most late model GM cars (Buick, Cadillac, Chevrolet, GMC, Hummer, Oldsmobile, Pontiac) Some Mazda
	MVA804* 	45 mm thread	Most European cars (Alfa Romeo, Audi, BMW, Jaguar, Land Rover, Mercedes, Peugeot, Porsche, Renault, Saab, VW, Volvo), Chrysler Crossfire, Daewoo, Late model Ford, Kia, some Mazda, and Mini
	MVA808* 	3-Tab camlock	All Hyundai, Mitsubishi, Nissan, and Subaru, some Chrysler/Dodge, some Ford/Lincoln
	MVA809 	Universal round cone secured with chain	Master cylinders with/ small round necks from 1 1/4" (32mm) up to 2 1/8" (54 mm) internal diameter
	MVA810* 	Universal round cone secured with chain	All Acura, Honda, Isuzu, and Suzuki, some Mitsubishi. Master cylinders with/ large round necks from 1 3/4" (50mm) to 3 5/16" (80 mm) internal diameter
	MVA811 	Face seal secured with dual chains	Rectangular shaped master cylinders ranging in size up to 3 1/2" x 6" (90mm x 150mm)
	MVA812 	Face seal secured with dual chains	Rectangular shaped master cylinders ranging in size from 3 1/2" x 6" (90mm x 150 mm) to 4 1/4" x 7 3/4" (108 mm x 200 mm)

\*Included in MVA6850 Pressure Bleed Adapter Kit

---

## PRINCIPAL OF OPERATION

This equipment is designed and intended for use as an accessory to dispense or evacuate fluids using a Matco hand pressure/vacuum pump MVP5000 (sold separately). The hand pump is utilized to build pressure or vacuum in the fluid transfer bottle. Pressure can be used to dispense fluid out of the bottle for the purpose of bleeding hydraulic brake or clutch systems, or for filling or topping-off various automotive reservoirs. Vacuum can be used to bleed hydraulic brake or clutch systems, or to evacuate fluids from various automotive reservoirs.

Fluid is added or emptied from the fluid transfer bottle through the top by removing the threaded cap. Pressure or vacuum is applied to the bottle via a hand pump connected to the inlet hose extending from a nipple near the top of the bottle. Fluid is dispensed or evacuated through the fluid hose connected to a nipple extending from the bottom of the fluid transfer bottle. A fluid wand is included for connection to the output of the fluid hose via a quick-change coupler. It can be used to direct the flow of fluid into a reservoir or to reach into a reservoir to evacuate fluid out. The quick-change coupler has an automatic shut-off valve that will stop fluid flow when the wand or other accessory is not connected. A ball valve is installed in the fluid hose to shut-off or control the flow of fluid to or from the fluid transfer bottle.

Additional accessories including ATF adapters for topping-off sealed transmissions, are available for separate purchase, and will greatly expand the applications of this equipment.

## PRECAUTIONS

This equipment is designed for servicing a variety of vehicles in a safe, convenient manner. However, differences in vehicle models may make it impossible to use this equipment as intended. Do not attempt to force the use of this equipment on an application for which it is not designed to perform.

The procedures documented in this manual are to serve as guidelines for the use of this equipment. In addition to these guidelines, always follow the manufacturer's recommended procedures when servicing each unique vehicle.

The use of this equipment is simple and straightforward if you follow the instructions. However, always keep in mind that you are working with a system that may be under pressure, with fluid that is just waiting to be

expelled. When operating this equipment, use common sense, and always stop to think before disconnecting a hose or other component.

This equipment should never be operated above a safe level of pressure, depending on the application. When pressurizing the fluid transfer bottle, always use a hand pump with a pressure gauge installed. When operating the pump, observe the gauge to ensure the pressure in the bottle remains at or below the recommended pressure for the application. Never pressurize the fluid transfer bottle above 20 psi/1.4 bar/140 kPa.

- This equipment is intended only for professional use by personnel trained in performing the service functions for which it has been designed.
- Read carefully and understand all instructions prior to using this equipment.
- Always wear eye protection and proper clothing when operating this equipment
- Some fluids, including brake fluid, are corrosive, and proper care should be taken to protect painted surfaces and skin from exposure.
- Do not use this equipment with flammable liquids, or with fluids at temperatures above 175° Fahrenheit (80° Celsius).
- Consult and follow the vehicle manufacturer's recommended procedure when using this equipment to perform automotive service.

## ASSEMBLY

1. Using one of the finger clamps (4), secure the 8' (2.5 m) long clear inlet hose (3) to the barb located on the side of the fluid transfer bottle (5).
2. Install the hose adapter (8) into the other end of the tube (3) and secure it with a hose clamp (4).
3. Use a finger clamp (4) to secure the 5' (1.5 m) long hose, valve and quick-change coupler (6) assembly to the barb extending from the bottom of the fluid transfer bottle (5).
4. Ensure the cap seal (2) is installed in the cap, and thread the cap w/ chain assembly (1) onto the top of the fluid transfer bottle.

# INSTRUCTIONS FOR USE

## Fluid Dispensing

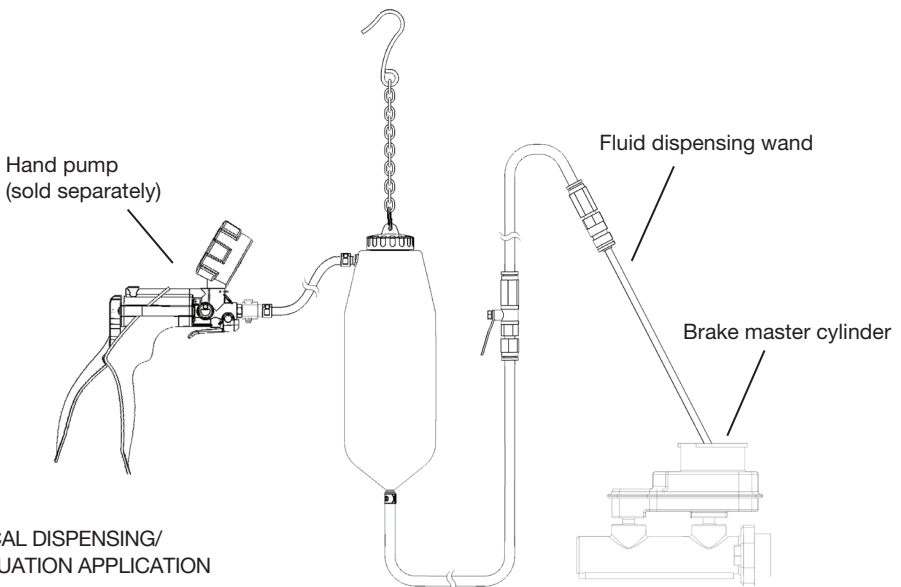
1. Unscrew the cap from the fluid transfer bottle, and fill to desired level with clean fluid.
2. Reinstall the cap onto the bottle and hang the assembly in a safe, secure location within reach of the application.
3. Close the ball valve located on the fluid hose assembly extending from the bottom of the bottle.
4. Connect the fluid dispensing wand or other accessory to the quick-change coupler on the end of the fluid hose assembly. Ensure the coupler sleeve snaps forward to lock the connection.
5. Connect a Mityvac hand pressure pump w/ pressure gauge to the inlet hose extending from the side of the fluid transfer bottle.
6. While observing the gauge, operate the pump to build pressure in the fluid transfer bottle to the desired level. Do not exceed 1.4 bar (20 psi) pressure.
7. Insert the fluid wand into the reservoir you wish to fill or top-off, and open the ball valve to allow the flow of fluid.

**NOTE:** Continual operation of the pump is not required to maintain fluid flow. Fluid will continue to flow as long as there is pressure in the reservoir and the shutoff valve is open.

8. Once the proper amount of fluid has been dispensed, close the shutoff valve and release the pressure in the system by activating the pressure relief lever on the hand pump.
9. Depending on the type of fluid and future intended use, you may store the remaining fluid in the reservoir. Otherwise empty the bottle assembly, clean it with denatured alcohol or a common household cleaner, and store it properly.

## Fluid Evacuation

1. Hang the fluid transfer bottle assembly in a safe, secure location within reach of the application.
2. Close the ball valve located on the fluid hose assembly extending from the bottom of the fluid transfer bottle.
3. Connect the fluid dispensing wand or other accessory to the quick-change coupler on the end of the fluid hose assembly. Ensure the coupler sleeve snaps forward to lock the connection.
4. Connect a Mityvac hand vacuum pump to the inlet hose extending from the side of the fluid transfer bottle.
5. Operate the pump to build vacuum in the bottle.



6. Insert the fluid wand into the reservoir from which you intend to draw fluid, and open the ball valve to allow the flow of fluid.

**NOTE:** Continual operation of the pump is not required to maintain fluid flow. Fluid will continue to flow as long as there is vacuum in the reservoir and the shutoff valve is open.

7. Once the required amount of fluid has been evacuated or the fluid transfer bottle is full, close the shutoff valve and release the vacuum in the system by activating the pressure relief lever on the hand pump.
8. If no future use of the evacuated fluid is intended, dispose of it properly, clean the fluid transfer bottle assembly with denatured alcohol or a common household cleaner, and store it properly.

## Brake Bleeding

Many brake systems today feature Anti-Lock functions and electronic controls that use a high pressure electric pump to keep the system pressurized. Bleeding or servicing these systems requires special procedures and cautions. Always observe the following precautions when servicing Anti-Lock brake system:

- ALWAYS wear safety goggles when servicing high pressure brake systems
- ALWAYS depressurize the ABS system prior to adding fluid or attempting service or repair
- Unless instructed to by the manufacturer's procedure, NEVER open a bleeder valve or loosen a hydraulic line while the ABS system is pressurized
- ONLY use recommended brake fluids. DO NOT use silicone brake fluid in ABS equipped vehicles.
- Always refer to an appropriate repair manual for additional information on Anti-Lock brake systems.

## Depressurizing Anti-lock Brake Systems

Always refer to the vehicle owner's manual or appropriate service manual for additional information on the depressurizing procedure. The following procedure will work on most Anti-Lock brake systems:

1. Ensure ignition switch is in the OFF position or disconnect the negative battery cable.
2. Pump the brake pedal 25 to 40 times, until a noticeable change is felt. Continue to pump the pedal a few additional times. This should eliminate most system pressure.

3. Open fluid reservoir or brake lines carefully. Top off reservoir fluid and reconnect battery cable when finished.

## Bleeding Anti-lock Brake Systems

- Always refer to the vehicle owner's manual or appropriate service manual for manufacturer's brake bleeding procedure.
- The front brakes on most Anti-Lock brake systems may be bled in the conventional manner.
- Most hydraulic pump/pressure accumulator units are fitted with a bleeder valve which must be bled when the system has lost fluid or is being replaced.
- Some vehicles require the system be pre-surized when the rear brakes are bled.
- Some automotive manufacturers use bleeding procedures that require specialized equipment.

## Pressure Bleeding

The Pressure Bleed Accessory Kit is appropriate for use as a pressure bleeder for hydraulic brake and clutch systems.

Pressure bleeding is quick and easy because:

- it does not require an assistant
- it maintains pressure in the system while bleeding multiple locations
- it keeps the master cylinder full during bleeding

The kit can also be used to identify the presence of leaks in an automotive hydraulic brake or clutch system. Leaks are indicated by a drop in pressure over a few seconds or minutes. The locations of leaks can be pinpointed by visible seepage of fluid from the system while under pressure.

**WARNING:** Hydraulic/brake fluid is hazardous and corrosive. Take precautions to protect painted surfaces and skin from exposure, and read and follow the fluid manufacturer's warnings and instructions. Always wear safety goggles when working with brake fluid.

**CAUTION:** Use your Mityvac Pressure Bleeder only as directed. Read these instructions completely before attempting to service brakes. The Mityvac Pressure Bleeder is intended for use only by individuals experienced with bleeding and servicing brake systems. If you are unsure about how to properly service your vehicles brake system, consult a trained professional. Always follow the vehicle manufacturer's directions when bleeding the brake system.

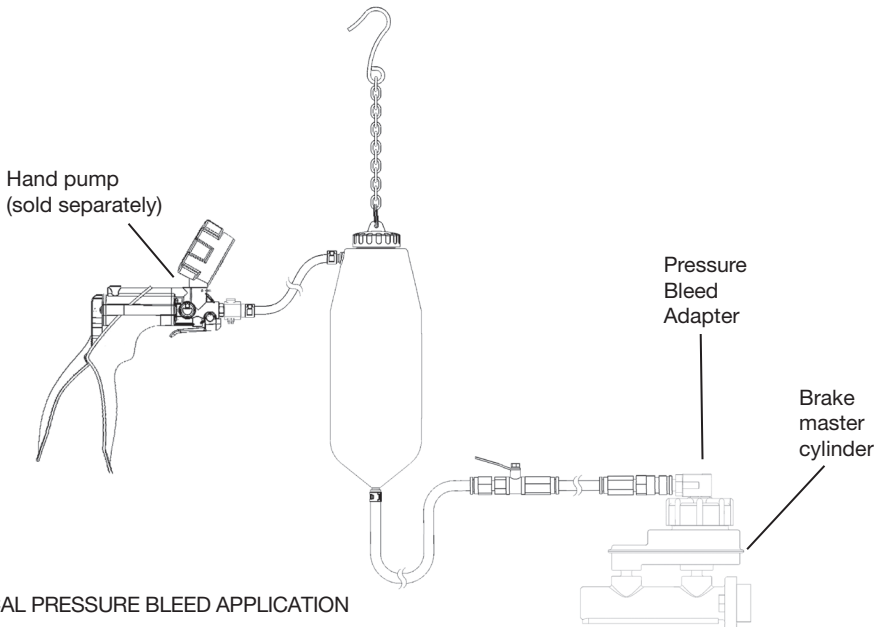
1. Ensure the vehicle is properly positioned for safe, convenient access to the master cylinder and the brake bleed screw located on each wheel brake cylinder. Set the parking brake, turn off the engine, and open and secure the hood.
2. Locate the brake or clutch master cylinder and remove the cap.
3. Extract as much used hydraulic fluid from the master cylinder reservoir as possible, and refill it with new fluid.
4. Select the appropriate master cylinder pressure bleed adapter and install it securely onto the master cylinder reservoir.
5. Hang the fluid transfer bottle assembly in a safe, secure location within reach of the master cylinder reservoir.
6. Perform the following procedure before adding any fluid to the fluid transfer bottle:
  - a. Connect the fluid hose to the male quick-connect coupler on the master cylinder pressure bleed adapter. Ensure the coupler sleeve snaps forward to lock the connection.
  - b. Consult the vehicle manufacturer's guidelines for the proper bleeding pressure.
  - c. Connect a Mityvac hand pressure pump w/ pressure gauge to the inlet hose extending from the side of the fluid transfer bottle.

d. Ensure the shutoff valve on the fluid hose assembly is open, and operate the manual pump to pressurize the system to the recommended pressure.

e. Watch the pressure gauge to ensure there are no leaks. If the pressure drops, relieve the remaining pressure in the system by activating the pressure relief lever on the hand pump. Remove and retighten the cap from the fluid transfer bottle and the adapter on the master cylinder reservoir, and recheck the system for leaks.

**WARNING:** Serious injury and/or equipment damage can occur if the lid is removed from the fluid transfer bottle or the adapter from the master cylinder, without first relieving the system pressure.

7. Once all connections are proven secure and the master cylinder adapter does not leak, remove the cap from the fluid transfer bottle and add up to 1 liter (1 quart ) of the vehicle manufacturer's recommended new hydraulic fluid from a sealed container.
8. Reinstall the cap onto the fluid transfer bottle and tighten it securely.
9. Consult the vehicle manufacturer's guidelines for the proper wheel bleeding sequence and pressure bleeding procedure.
10. Observing the pressure gauge, operate the hand pressure pump to achieve the recom-



TYPICAL PRESSURE BLEED APPLICATION



mended pressure. Do not exceed 1.4 bar (20 psi) pressure.

11. Connect a bleed reservoir to the bleed screw of the first cylinder to be bled.
12. Open the bleed screw. Allow fluid to flow out until only clear new fluid with no visible air bubbles is streaming from the screw, and then re-tighten the bleed screw to the manufacturer's recommended torque.
13. Perform the same procedure on all remaining bleed screws. Operate the pressure pump as required to maintain adequate pressure.

**NOTE:** Do not allow the fluid transfer bottle and master cylinder reservoir to run dry. Use the pressure relief lever on the hand pump to relieve the system pressure and add new fluid if necessary.

14. Once bleeding is complete, relieve the pressure in the system by activating the pressure relief lever on the hand pump.
15. Close the fluid dispensing hose shutoff valve, disconnect the fluid hose by pulling back on the coupler sleeve, and carefully remove the adapter from the master cylinder, being careful not spill any brake fluid.
16. Extract excess fluid or top-off the master cylinder as required, and replace the cap.
17. Dispose of any hydraulic fluid remaining in the fluid transfer bottle. Do not store hydraulic fluid in the bottle. Clean the fluid transfer bottle assembly with denatured alcohol and store it properly.
18. Test the brake or clutch system for leaks before driving the car.

## Vacuum Brake Bleeding

The Fluid Transfer Accessory Kit provides a simple, clean, and quick method for vacuum bleeding the fluid lines in an automotive brake system. It operates by creating a vacuum in the bottle, which draws fluid from the lines via the wheel cylinder bleed screws.

1. Ensure the vehicle is properly positioned for safe, convenient access to the master cylinder, and the brake bleed screw located on each wheel brake cylinder. Set the parking brake, turn off the engine, and open and secure the hood.

**NOTE:** Make certain the master cylinder reservoir is filled and a supply of new, clean brake fluid of the proper type is on hand to top off the reservoir as the fluid level drops

during bleeding. Make sure all the bleeding fittings are clean prior to beginning of the bleeding procedure.

**NOTE:** Consult the vehicle manufacturer's guidelines for the proper wheel bleeding sequence and vacuum bleeding procedure.

2. Disconnect the quick-change coupler from the end of the fluid hose extending from the bottom of the fluid transfer bottle by pulling back on the blue sleeve of the coupler to release it from the hose.
3. Insert the appropriate brake bleed adapter into the end of the fluid hose in place of the coupler.

**NOTE:** Brake bleed adapters are not included with the fluid transfer accessory kit, but come standard with most Mityvac hand pump kits, or can be purchased separately. In many cases, the end of the fluid hose can be slipped directly onto the bleed screw nipple, eliminating the need for a brake bleed adapter.

4. Following the vehicle manufacturer's recommended bleed procedure, hang the fluid transfer bottle assembly in a safe, secure location within reach of the first wheel cylinder to be bled, and open the shut-off valve located on the fluid hose assembly.
5. Connect a Mityvac hand vacuum pump to the inlet hose extending from the side of the fluid transfer bottle.
6. Slide a wrench securely onto the hex of the wheel cylinder bleed screw, and then slip the bleed screw adapter or fluid hose over the bleed screw nipple.
7. Operate the hand pump 10 to 15 times to build vacuum in the fluid transfer bottle, and turn the wrench to open the fitting only enough to allow fluid to flow; usually 1/4 to 1/2 turn.

**NOTE:** A tiny stream of bubbles may be noticed in the hose after all of the air is bled from the lines. This is caused by air seeping around the threads of the loosened bleeder fitting and being drawn back through the fitting by the suction of the pump. Once the air is removed from within the system, these tiny bubbles will in no way jeopardize the bleeding operation, since they are present only at the fitting and do not enter the system. Applying grease or Teflon tape around the threads of the fitting will eliminate most of the bubbles.

8. Keep the bleed screw open and continue to operate the vacuum pump as required until new fluid is visibly flowing through the bleed tube.
9. Without over-tightening, close the bleed screw firmly prior to removing the bleed screw adapter or hose from the bleed screw, or relieving the vacuum from the system.

**NOTE:** It is important to ensure the bleed screw adapter remains connected to the bleed screw, and the bleeder is still pulling a vacuum while the bleed screw is closed. This prevents air from being sucked back into the wheel cylinder from around the bleed screw threads, before the bleed screw is tightened and sealed.

**NOTE:** If an automatic master cylinder refill accessory is not being used, be sure to periodically check the level and top off the brake fluid in the master cylinder so it does not run dry.

## Topping-off Sealed Automatic Transmissions

The Fluid Transfer Accessory Kit is appropriate for use to refill or top-off sealed automatic transmissions. Additional accessories and adapters may be required and available from Matco for performing this function.

1. Unscrew the cap from the fluid transfer bottle, and fill to desired level with the vehicle manufacturer's recommended transmission fluid.

**CAUTION:** Lifetime "sealed" transmissions require the use of special manufacturer recommended fluids. Use of any other fluids may cause severe damage to the transmission and void the manufacturer's warranty

2. Reinstall the cap onto the bottle and hang the assembly in a safe, secure location within reach of the transmission fill port.
3. Close the ball the valve located on the fluid hose assembly extending from the bottom of the bottle.
4. Connect a Mityvac hand pressure pump w/ pressure gauge to the inlet hose extending from the side of the fluid transfer bottle.
5. Depending on the application, select the appropriate ATF refill adapter and perform one of the following series of steps:

Connect the ATF refill adapter to the transmission fill port; then connect the fluid hose extending from the bottom of the fluid transfer bottle to the other end of the adapter.

**-or-**

Connect the ATF refill adapter to the fluid hose extending from the bottom of the fluid transfer bottle; then insert the adapter into transmission fill port.

6. Open the shut-off valve, and while observing the pressure gauge, operate the pump to build pressure in the reservoir to the desired level, or until the proper amount of fluid has been dispensed. Do not exceed 1.4 bar (20 psi) pressure in the system.

**NOTE:** Check the vehicle's service manual to determine the proper method to check the transmission fluid level. Failure to follow the manufacturer's recommended procedure could result in under- or over-filling the transmission, causing severe transmission damage.

It is not necessary to relieve the pressure in the fluid transfer bottle or close the shut-off valve if the hose must be disconnected from the adapter to check the transmission fluid level. An automatic shut-off valve is built into the quick-change coupler, which will prevent the discharge of fluid if the coupler is disconnected from the adapter.

Continual operation of the pump is not required to maintain fluid flow. Fluid will continue to flow as long as there is pressure in the reservoir, the hose is connected to the adapter, and the shutoff valve is open.

If the transmission is over-filled, you may reverse the hand pump to pull a vacuum on the system to remove and capture the excess fluid.

7. Once the proper amount of fluid has been dispensed, close the shutoff valve and release the pressure in the system by activating the pressure relief lever on the hand pump.
8. Depending on the type of fluid and future intended use, you may store the remaining fluid from the reservoir. Otherwise, empty the fluid transfer bottle, clean it with denatured alcohol or a common household cleaner, and store it properly.